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from the Savannah River Site

Removal Site Evaluation Report Engineering Evaluation / Cost Analysis for the Disposition of Water in the 105-P Disassembly Basin at the Savannah River Site

The U.S. Department of Energy (DOE) is proposing to perform a non-time critical removal (NTCR) action at the Disassembly Basin within the 105-P Reactor Complex located at the Savannah River Site's P-Area. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulations require a Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis (RSER/EE/CA) to evaluate removal alternatives. This NTCR action addresses the disposition of contaminated water in the Disassembly Basin in order to prepare for activities designed to place the 105-P Facility in its final end state as determined by the ongoing P-Area Completion efforts.

P-Area—located in the southeast portion of SRS—is approximately 14.2 miles from A-Area, which is on the northwest edge of the Site. P-Area which includes Building 105-P is located entirely in Barnwell County. The Disassembly Basin is located in the southernmost portion of the 105-P facility.

The 105-P Disassembly Basin is a concrete basin inside the 105-P Reactor building comprised of seven interconnected sections and currently has approximately 4.4 million gallons of water over contaminated sediments and reactor activated metal components. The five general alternatives considered for the 105-P Disassembly Basin were selected to specifically address the disposition of 4 million gallons of contaminated water. The amount of water to disposition is an estimate based on experience gained at 105 R Disassembly Basin. The disposition of the water will achieve risks within the CERCLA risk range of 1.0E-04 to 1.0E-06 and a Hazard Index of no more than 1.0. The remaining 0.4 million gallons will be retained in the basin for radiation shielding of the activated metals until final decommissioning and to make grout for the basin end-state.

The purpose of the RSER/EE/CA, as required by the National Contingency Plan, is to identify the objectives of the removal action and to develop various alternatives that might satisfy those objectives. This RSER/EE/CA evaluates five alternatives, recommends a removal action, and provides for public comment.

The preferred alternative identified by the RSER/EE/CA will disposition water in the 105-P Disassembly Basin by using the water to make grout to fill the -40 ft. up to the grade elevation of the 105-P Reactor Building. All of the decommissioning end states identified for 105-P Reactor Building in the P-Area Completion documentation specify filling the below grade portions of the 105-P building with grout. Depending on the final grout formulation design, up to one million gallons of contaminated water may have to be trucked to the Effluent Treatment Plant and discharged to the Savannah River. The implementation of this alternative will provide for a cost effective means for disposition of the 105-P Disassembly Basin water. The alternative will complement the current schedule forecasted for Area Completion by allowing public participation on water disposition activities during the planning and document preparation for future decommissioning and CERCLA remedial activities planned for the 105-P complex. Identifying the disposition of the water at this time will provide for flexibility in scheduling and implementation of Area Completion.

DOE plans to release this document for a 30-day public comment period beginning March 13, 2008. The preferred alternative may be modified or changed based on public comments. Following the public comment period, an Action Memorandum will be prepared and transmitted to the US Environmental Protection Agency and the South Carolina Department of Environmental Control by DOE-Savannah River.

This RSER/EE/CA, completed under CERCLA, is available for public review from March 13, 2008 to April 14, 2008 at the following locations:

- DOE Public Reading Room at the Gregg-Graniteville Library at the University of South Carolina (USC)-Aiken campus in Aiken, SC;
- Thomas Cooper Library Government Documents Department at USC in Columbia, SC;
- Reese Library at Augusta State University in Augusta, GA; and
- Asa H. Gordon Library at Savannah State University in Savannah, GA.

An electronic copy of the RSER/EE/CA is posted at the following address:
http://www.srs.gov/general/programs/soil/pub/pubinv.html

For additional information, contact Paul Sauerborn at 1-803-952-6658 or e-mail: paul.sauerborn@srs.gov.

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